IV. THE COMMISSION SHOULD CLARIFY WHAT CONSTITUTES PROGRAMMING SPECIFICALLY DESIGNED TO SERVE THE EDUCATIONAL AND INFORMATIONAL NEEDS OF CHILDREN

The Commission proposes to clarify what qualifies as programming "specifically designed" to meet the educational or informational needs of children. Public Television agrees that additional clarification is needed and recommends that the Commission adopt a structural approach to the definition, such as the one proposed by The Children's Television Workshop in its May 7, 1993, comments in this proceeding. Specifically, Public Television suggests that programming should qualify as "specifically designed" to meet the educational or informational needs of children if it is (1) developed with the assistance of educational advisors, (2) created to fulfill explicit written educational goals with respect to a specific target audience, and (3) tested for its effectiveness in meeting those goals. See CTW Comments, pp. 8-10.

In PBS's experience, the three steps identified by CTW are crucial to the successful production of educationally effective children's programming and, in fact, are incorporated in the process that the PBS children's programming department uses to select children's television series:

- To assure that the series is being developed with the assistance of educational advisors, producers submitting proposals to PBS are asked to include vitae of the subject matter experts consulted in the development of the content and vitae of the educational and/or child development experts consulted regarding the developmental appropriateness of both content and presentation.

- Second, to assure that the series is being created to fulfill explicit written educational goals with respect to a specific target audience, producers are required to submit a description of the series' educational goals and objectives, intended target audience, and appropriateness for that audience, as well as an educational outreach plan addressing the entertainment and educational needs of the target audience and the practical needs of the adults who will implement the outreach.

- Finally, to assure that the series will be tested for its effectiveness in meeting its educational goals, producers must submit a research design for testing the series' entertainment value and educational effectiveness.

These proposals are then reviewed by the PBS programming staff, which includes professionals with expertise in child development; instructional design; teaching; and television series development, production and programming.

The results speak for themselves. Over the years, public television has consistently provided the nation's children with television series that not only respect their sense of humor and fun, but also address their interest in learning new skills. The educational efficacy of this approach has been documented through twenty-five years of research on *Sesame Street* and *Mr. Roger's Neighborhood,* thirteen years of research on *Reading Rainbow,* and from six months to four years of research on newer series such as *Wishbone, The Puzzle Place, Ghostwriter,* and *Barney & Friends.*

Programming such as this has made a measurable difference in the interests and abilities of children in pre-school through middle school to recognize and identify primary colors and letters of the alphabet; recognize numbers and count; read and write better; read books on their own; remember and enjoy classic literature; develop teamwork; set goals and organize ideas; get along with others; recognize and appreciate people's differences; develop self-esteem and self-confidence; and use and value libraries as a resource.

The CTW three-pronged, structural approach would have a number of benefits beyond improving the educational effectiveness of children's programs. First, it would provide broadcasters with a more clearly defined "safe harbor." Both broadcasters and the Commission would have objective criteria for determining whether certain programming satisfies the requirements of the CTA.

Second, because the criteria would be objective rather than content-based, this approach would avoid the quagmire of subjectivity inherent in applying a more substantive definition of educational programming.

Third, it would provide a process-based standard by which the Commission could objectively evaluate sponsorship proposals. Proposals that include each of these three steps in the production process could be found to satisfy the "educationally effective" criterion, thereby avoiding the prolonged uncertainty that would accompany implementation of any standard requiring a subjective review of the completed program's content. Indeed, without a process-based standard, it would be extremely difficult to implement Public Television's proposed approach, which contemplates providing advance Commission approval to licensees that make major innovative sponsorship proposals.

Conclusion

Whether a sponsorship system could help to bring about "the kind of measurable increase" in educationally effective children's programming contemplated by the CTA, will depend on how it is implemented. Public Television believes that a flexible approach to implementation, within broad, but clearly stated guidelines regarding the types of sponsorship proposals that would merit license renewal credit, is the most effective way to encourage the kind of innovative proposals needed to aggregate the funding required to produce new children's programming and assure its local broadcast distribution.

Respectfully submitted,

Paula Jameson (MMG)

Paula A. Jameson
Nancy Howell Hendry
PUBLIC BROADCASTING SERVICE
1320 Braddock Place
Alexandria, Virginia 22314
(703) 739-5063

Marilyn Mohrman-Gillis

Marilyn Mohrman-Gillis
Lonna M. Thompson
ASSOCIATION OF AMERICA'S PUBLIC TELEVISION STATIONS
1350 Connecticut Avenue, N.W.
Suite 200
Washington, D.C. 20036
(202) 887-1700

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PRODUCTION COSTS FOR EDUCATIONAL CHILDREN'S PROGRAMMING

Program	# New Episodes	# New Program Hours	Production Cost*
Barney and Friends III	20 + 2	12	$4,129,774
Bill Nye The Science Guy I, II, III	65	32.5	$11,477,730
Ghostwriter III*	8 + 1	4.5	$3,965,537
Lamb Chop's Play-Along IV*	10 + 1	6	$1,051,393
Magic School Bus	13	6.5	$6,865,000
Mister Rogers' Neighborhood*	15	7.5	$1,606,587
Puzzle Place	40	20	$10,300,000
Reading Rainbow 11*	14	7	$4,360,330
Sesame Street 26	130	130**	$20,123,495
Shining Time Station III*	25	12.5	$4,755,445
Storytime I	40	20	$3,678,845
Where...is Carmen Sandiego?*	50	25	$3,709,296
Wishbone	40	20	$20,000,000

* For the asterisked (*) titles, the production cost figures submitted to PBS include the cost to renew old episodes as well as produce new episodes. The figures appearing above have been adjusted to remove these renewal costs and reflect the estimated cost of new production only.

** Of the 130 "new" program hours listed, approximately one-third of the program material is new and two-thirds of the program material consists of material that was produced in prior seasons. Approximately 90 percent of the $20 million production cost is for the new program material.

[redacted]

ANALYSIS OF COMMERCIAL OPPORTUNITY COSTS ASSOCIATED WITH EDUCATIONAL CHILDREN'S PROGRAMMING

Prepared For

ASSOCIATION OF AMERICA'S PUBLIC TELEVISION STATIONS AND PUBLIC BROADCASTING SERVICE

Prepared By

JIM TRAUTMAN AND MARK WYCHE

BORTZ & COMPANY

OCTOBER 16, 1995

This report sets forth the findings of Bortz & Company's analysis of opportunity costs to commercial broadcasters associated with the exhibition of two hours of children's educational programming per week. A summary of our key conclusions is presented initially, followed by a detailed discussion of our methodological approach and the results of the assessment.

Summary and Conclusions

Both affiliate and independent commercial TV stations in large, medium and smaller markets could experience opportunity costs ranging from $16,000 to $383,000 if required to exhibit two hours per week of high quality children's educational programming in lieu of existing programming types. These opportunity costs equate to one to five percent of a commercial station's typical cash flow except for small market independents which typically operate at a breakeven level. The lost opportunity would be greatest in the valuable Early Fringe (Monday - Friday, 3:00 PM - 6:00 PM) daypart:

	Potential Per Station Annual Opportunity Cost (000) by Market Range		
	Markets 11-20	Markets 41-50	Markets 101-110
Early morning (M-F, 6-9 AM):			
Affiliate	$224	$156	$ 67
Independent	120	36	22
Early Fringe (M-F, 3-6 PM):			
Affiliate	$383	$179	$112
Independent	24	78	50
Sunday Morning (6-9 AM):			
Affiliate	$137	$ 87	$ 16
Independent	93	42	19

Affiliates experience much greater opportunity costs than independents due to the typically stronger performance of their existing programming in all of the dayparts assessed. Affiliate opportunity costs are greater despite the assumption that these stations would, on average, generate higher ratings for their children's educational programming than would their independent counterparts.

It is important to note that our analysis bases commercial station costs on the acquisition of high quality, nationally produced and distributed children's education programming. Alternative approaches to obtaining such programming could potentially increase or reduce commercial station costs depending on the approach -- and could therefore change the opportunity cost equation summarized in this assessment. This analysis also does not account for any competitive impact which the distribution of programming by commercial stations might have on public television (PTV) children's programming.

Finally, it should also be noted that commercial operators would likely air children's educational programming in the daypart or dayparts where the negative financial impact of distributing the programming was smallest (i.e., in this assessment, the Sunday Morning time period).

Overview and Methodology

Potential commercial station opportunity costs associated with exhibiting two hours per week of children's educational programming in lieu of existing product were estimated for a "typical" affiliate and independent station in large (market range 11 to 20), medium (market range 41 to 50) and smaller (market range 101 to 110) television markets. Opportunity costs were estimated assuming programming could air in one of three dayparts:

- Early Morning (Monday - Friday, 6:00 AM to 9:00 AM)
- Early Fringe (Monday - Friday, 3:00 PM to 6:00 PM)
- Sunday Morning (6:00 AM to 9:00 AM)

Opportunity costs were defined for the purposes of this analysis as the difference between the expected financial performance of existing types of programming aired for two hours per week in the specified dayparts and the expected financial performance of children's educational programming aired for two hours per week in the same dayparts. Expected financial performance was defined as gross advertising sales less sales commissions and the cost of the programming aired.

Certain key elements of the analysis meriting specific consideration are discussed below.

Children's educational programming. This analysis is predicated on the assumption that commercial stations acquire high quality, nationally produced children's programming. The estimated production cost of such programming (i.e., at the national level) is based on actual data for children's programming produced for public television (as provided by PBS) and on discussions with selected individuals involved in commercial children's programming licensing and production.

Programming is estimated to cost approximately $250,000 per hour produced, with each hour produced assumed to air slightly less than three times per year -- resulting in an estimated cost per hour aired of $90,000. The cost for an individual local station to acquire the programming is then determined based on the proportion of TV households in that market relative to the number of TV households nationally. For example, in a market containing one percent of all U.S. TV households, a station's programming acquisition costs would equal one percent of national costs per hour aired, or $900 per hour.

This approach should be viewed in the context of two key issues:

- First, commercial stations seeking to air children's educational programming could have several other options available, including acquisition of existing "aftermarket" programming, local production and "barter" acquisition of programming (i.e., providing the program producer or syndicator with advertising inventory in lieu of a cash payment). These approaches could increase or decrease the cost of the educational programming to individual stations.

- Second, our analysis assumes a station would pay the producer/distributor an amount exactly equal to the proportionate cost of producing the program. Actual price to a station could be above or below this level depending on the demand by stations for the programming and the "aftermarket" (i.e., domestic and international syndication, home video, multimedia/CD-ROM, etc.) potential for the programming. If there were no aftermarket potential, stations would likely be required to pay more than assumed in this analysis (to provide the producer/distributor with a return on their production investment). If aftermarket potential was considered very high, a lower license fee might be accepted by the producer/distributor in order to ensure widespread distribution and capitalize on future revenue potential.

Commercial station programming costs. Estimating what commercial stations pay for the types of programming they currently air in the dayparts analyzed is complicated by the fact that several different approaches are used to "pay" for programming. Locally produced programming incurs a production cost, and acquired programming may be obtained on a cash basis, a barter basis or for a mix of cash and barter. For the purposes of this analysis, we have assumed that stations acquire programming based on a target "margin" that the programming can be expected to achieve (i.e., the expected excess of net advertising revenues over the amortized cost of the programming). Based on data from the National Association of Broadcasters, an estimated "typical" margin on existing programming has been applied as a means of estimating programming costs.

Competitive issues. Finally, it is important to note that this analysis does not consider any competitive impact which the commercial broadcast distribution of high quality children's educational programming might have on the performance of (or perceived value by viewers of) children's programming on public television. PTV stations considering options related to the children's educational programming issue should assess potential competitive implications in their decisionmaking.

Limitations

This analysis represents a general guide to the opportunity costs to commercial television stations associated with the exhibition of two hours of children's educational programming per week. Some of the assumptions underlying opportunity cost estimates inevitably will not materialize and unanticipated events and circumstances will sometimes occur. Actual opportunity costs realized by commercial television stations will probably vary from those projected and the variation may be material.

Estimated Opportunity Costs

Assumptions used in estimating commercial station children's educational programming opportunity costs in selected dayparts are presented on Tables 1 (Early Morning), 2 (Early Fringe) and 3 (Sunday Morning). Major assumptions include:

- **Advertising inventory.** Affiliates and independents in all market size ranges and all dayparts are assumed to offer an average of 13 minutes of advertising time per hour (i.e., 26 30-second spots) in non-children's programming. FCC regulations restrict commercial time in children's programming to 12 minutes per hour on weekdays and 10.5 minutes per hour on weekends. Affiliate and independent station commercial inventory per hour has been weighed by the amount of non-children's versus children's programming currently being exhibited.

- **Average rating.** Ratings for existing programming types (i.e., non-children's and children's) by daypart and market size are based on actual household ratings achieved by affiliates and independents in selected markets during May 1995. Ranges for affiliates are four to six in Early Morning, five to seven in Early Fringe and two to four on Sunday Morning. Independents (including Fox affiliates) achieve ones to twos in Early Morning and Sunday Morning, and twos to threes in Early Fringe.

  Ratings for children's educational programming reflect the actual daypart ratings achieved by public TV children's programming during the 1993-94 season. The independent station rating for this product is assumed to equal that attained by PTV, while affiliates are assumed to achieve a 50 percent higher rating for similar quality programming based on their promotional strength and market identity.

- **Advertising cost per rating point.** Household costs per point (CPP) are based on discussions with advertising agency personnel in selected markets as well as various secondary sources. Figures vary by daypart and market size, ranging from $54 to $61 in markets 11 to 20, from $24 to $29 in markets 41 to 50, and from $10 to $12 in markets 101 to 110.

TABLE 1. KEY ASSUMPTIONS UNDERLYING ANALYSIS OF CHILDREN'S EDUCATIONAL PROGRAMMING OPPORTUNITY COSTS (EARLY MORNING*)

	Market Range					
	11-20		41-50		101-110	
Assumption	Affiliate	Independent	Affiliate	Independent	Affiliate	Independent
Existing Programming						
Ad inventory (30-second spots/hour):						
Non-children's programming	26	26	26	26	26	26
Children's programming:						
Weekday	24	24	24	24	24	24
Weekend	21	21	21	21	21	21
Average household rating	3.8	1.8	5.5	1.0	5.7	1.5
Average cost per rating point	$ 54	$ 54	$ 24	$ 24	$ 10	$ 10
Average spot rate	205	94	134	24	54	14
Booking rate	80%	80%	80%	80%	80%	80%
Expenses:						
Sales/rep commissions (percent of gross revenue)	17%	17%	17%	17%	17%	17%
Cost of programming (percent of net revenue)	31	39	28	32	25	24
Children's Educational Programming						
Ad inventory (30-second spots/hour):						
Weekday	24	24	24	24	24	24
Weekend	21	21	21	21	21	21
Average household rating	1.8	1.2	1.8	1.2	1.8	1.2
Average cost per rating point	$ 54	$ 54	$ 24	$ 24	$ 10	$ 10
Average spot rate	96	64	44	29	17	11
Booking rate	80%	80%	80%	80%	80%	80%
Expenses:						
Sales/rep commissions (percent of gross revenue)	17%	17%	17%	17%	17%	17%
Cost of programming ($/hour)	$ 1,247	$ 1,247	$540	$540	$220	$220

*Monday - Friday, 6:00 AM - 9:00 AM.

Source: A.C. Nielsen, Nielsen Television Index, Household & Persons Cost Per Thousand, January-December 1994, and Viewers in Profile, selected markets, May 1995; Bethlehem Publishing, Media Market Guide, 1994 and 1995; PBS Research, National Audience Handbook 1993-94 Season, January 6, 1995; National Association of Broadcasters, 1994 NAB/BCFM Television Financial Report, August 1994; interviews with advertising personnel in selected markets; and Bortz & Company estimates.

TABLE 2. KEY ASSUMPTIONS UNDERLYING ANALYSIS OF CHILDREN'S EDUCATIONAL PROGRAMMING OPPORTUNITY COSTS (EARLY FRINGE*)

	Market Range					
	11-20		41-50		101-110	
Assumption	Affiliate	Independent	Affiliate	Independent	Affiliate	Independent
Existing Programming						
Ad inventory (30-second spots/hour):						
Non-children's programming	26	26	26	26	26	26
Children's programming:						
Weekday	24	24	24	24	24	24
Weekend	21	21	21	21	21	21
Average household rating	5.2	2.8	5.1	2.0	7.3	3.0
Average cost per rating point	$ 61	$ 61	$ 29	$ 29	$ 12	$ 12
Average spot rate	314	167	145	57	85	35
Booking rate	80%	80%	80%	80%	80%	80%
Expenses:						
Sales/rep commissions (percent of gross revenue)	17%	17%	17%	17%	17%	17%
Cost of programming (percent of net revenue)	31	39	28	32	25	24
Children's Educational Programming						
Ad inventory (30-second spots/hour):						
Weekday	24	24	24	24	24	24
Weekend	21	21	21	21	21	21
Average household rating	1.4	0.9	1.4	0.9	1.4	0.9
Average cost per rating point	$ 61	$ 61	$ 29	$ 29	$ 12	$ 12
Average spot rate	82	55	38	26	15	10
Booking rate	80%	80%	80%	80%	80%	80%
Expenses:						
Sales/rep commissions (percent of gross revenue)	17%	17%	17%	17%	17%	17%
Cost of programming ($/hour)	$ 1,247	$ 1,247	$540	$540	$220	$220

*Monday - Friday, 3:00 PM - 6:00 PM.

Source: A.C. Nielsen, Nielsen Television Index, Household & Persons Cost Per Thousand, January-December 1994, and Viewers in Profile, selected markets, May 1995; Bethlehem Publishing, Media Market Guide, 1994 and 1995; PBS Research, National Audience Handbook 1993-94 Season, January 6, 1995; National Association of Broadcasters, 1994 NAB/BCFM Television Financial Report, August 1994; interviews with advertising personnel in selected markets; and Bortz & Company estimates.

TABLE 3. KEY ASSUMPTIONS UNDERLYING ANALYSIS OF CHILDREN'S EDUCATIONAL PROGRAMMING OPPORTUNITY COSTS (SUNDAY MORNING*)

	Market Range					
	11-20		41-50		101-110	
Assumption	Affiliate	Independent	Affiliate	Independent	Affiliate	Independent
Existing Programming						
Ad inventory (30-second spots/hour):						
Non-children's programming	26	26	26	26	26	26
Children's programming:						
Weekday	24	24	24	24	24	24
Weekend	21	21	21	21	21	21
Average household rating	2.8	1.5	3.5	1.5	1.9	1.5
Average cost per rating point	$ 54	$ 54	$ 24	$ 24	$ 10	$ 10
Average spot rate	147	80	85	37	18	14
Booking rate	80%	80%	80%	80%	80%	80%
Expenses						
Sales/rep commissions (percent of gross revenue)	17%	17%	17%	17%	17%	17%
Cost of programming (percent of net revenue)	31	39	28	32	25	24
Children's Educational Programming						
Ad inventory (30-second spots/hour):						
Weekday	24	24	24	24	24	24
Weekend	21	21	21	21	21	21
Average household rating	2.3	1.5	2.3	1.5	2.3	1.5
Average cost per rating point	$ 54	$ 54	$ 24	$ 24	$ 10	$ 10
Average spot rate	120	80	55	37	21	14
Booking rate	80%	80%	80%	80%	80%	80%
Expenses						
Sales/rep commissions (percent of gross revenue)	17%	17%	17%	17%	17%	17%
Cost of programming ($/hour)	$ 1,247	$ 1,247	$540	$540	$220	$220

*6:00 AM - 9:00 AM.

Source: A.C. Nielsen, Nielsen Television Index, Household & Persons Cost Per Thousand, January-December 1994, and Viewers in Profile, selected markets, May 1995; Bethlehem Publishing, Media Market Guide, 1994 and 1995; PBS Research, National Audience Handbook 1993-94 Season, January 6, 1995; National Association of Broadcasters, 1994 NAB/BCFM Television Financial Report, August 1994; interviews with advertising personnel in selected markets; and Bortz & Company estimates.

Household CPPs are similar for children's and non-children's programming in the same daypart after adjusting for demographic ratings.

- **Booking rate**. Stations are assumed to sell 80 percent of their advertising inventory in all dayparts and market size ranges.

- **Sales/rep commissions**. Cost of sales is assumed to equal 17 percent of gross advertising revenues in all dayparts and market size ranges based on typical commercial television industry ratios as compiled by the National Association of Broadcasters.

- **Programming costs**. As described earlier, existing programming costs are estimated as a percentage of net revenue based on National Association of Broadcasters data. Costs as a percent of net revenue range from 25 to 31 percent for affiliates, and from 24 to 39 percent for independents.

  Also mentioned previously, children's programming costs reflect estimated national production costs ratioed based on market size to establish an individual station acquisition cost. Costs per hour range from almost $1,250 in markets 11 to 20 to $220 in markets 101 to 110.

Applying these assumptions yields annual commercial station opportunity costs as detailed on Table 4. Affiliates in markets 11 to 20 could experience opportunity costs ranging from $137,000 to $383,000 depending on the daypart in which children's educational programming is exhibited. The range for affiliates is $87,000 to $179,000 in markets 41 to 50 and $16,000 to $112,000 in markets 101 to 110.

For independents, estimated opportunity costs by daypart range from $93,000 to $214,000 in markets 11 to 20, from $42,000 to $78,000 in markets 41 to 50 and from $19,000 to $50,000 in markets 101 to 110.

It is important to understand that commercial stations would (absent regulatory restrictions) almost certainly air children's educational programming in the daypart where opportunity costs were lowest (Sunday Morning in this analysis). As such, the low end of the ranges provided is most relevant to analyzing actual opportunity costs likely to be experienced in the marketplace.

TABLE 4. ESTIMATED COMMERCIAL STATION CHILDREN'S EDUCATIONAL PROGRAMMING OPPORTUNITY COSTS BY MARKET SIZE RANGE (IN THOUSANDS)

	Market Range								
	11-20			41-50			101-110		
	Existing	Children's Educational	"Opportunity Cost"	Existing	Children's Educational	"Opportunity Cost"	Existing	Children's Educational	"Opportunity Cost"
Early Morning:									
Affiliate net annual revenue (after programming costs)	$254	$30	$224	$173	$17	$156	$72	$5	$67
Independent net annual revenue (after programming costs)	97	(23)	120	28	(8)	36	18	(4)	22
Early Fringe:									
Affiliate net annual revenue (after programming costs)	389	6	383	187	8	179	115	3	112
Independent net annual revenue (after programming costs)	175	(39)	214	64	(14)	78	44	(6)	50
Sunday Morning:									
Affiliate net annual revenue (after programming costs)	182	45	137	110	23	87	24	8	16
Independent net annual revenue (after programming costs)	80	(13)	93	39	(3)	42	17	(2)	19